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WHAT AN INTRA-RAYON RADIO COMMUNICATIONS STATION SHOULD BE

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Unsigned article

The editorial office requested the Main Radio Administration (GRU) of the Ministry of Communications USSR to give its opinion of the questions raised in V. M. Rozov's article "What An Intra-Rayon Radio Communications Station Should Be," published in the first issue of this journal for this year, and of the replies to that article, published in issues 7 and 8. The editorial office publishes GRU's reply below.

"The Main Radio Administration of the Ministry of Communications USSR considers that V. M. Rozov in his article correctly represented the circumstances existing to the present in the matter of providing equipment for intra-rayon radio communications. The subject of intra-rayon radio communications was discussed at the Technical Council of the Ministry of Communications USSR, wherein note was made of the path for further development of this form of communications.

"It was recommended that the following apparatus be developed for intra-rayon communications:

1. A receiving-transmitting telephone-telegraph station with a transmitter power of 50 watts in two variants: with a wavelength range of 40-300 meters; with wavelength ranges of 40-300 meters and 500-1200 meters (for the northern rayons).

2. A receiving-transmitting telephone-telegraph radio station with a transmitter power of 10-15 watts in two variants: with a wavelength range of 40-300 meters; with wavelength ranges of 40-300 meters and 500-1200 meters (for the northern rayons).

3. Wire radio line-balance converter units (RPPU) in two variants in order to provide duplex communications with the abovementioned radio stations with output to a two-wire telephone line at both ends of the radio communications line: a standard type, for use at radio stations in rayon centers or at points with developed telephone communications; a simplified type, for use at intra-rayo radio stations where there is need for an output to an intra-settlement, intra-sovkhoz, etc telephone network.

"The discussion materials in V. M. Rozov's article will also be considered under the technical conditions at a radio station and RPPU.

"Those participating in the critique of Comrade Rozov's article devoted special attention to the power-supply system of intra-rayon communications radio stations. GRU considers it necessary to furnish radio stations with various types of power equipment according to the prevailing conditions at the installation sites. Thus, in addition to the use of wind energy and the local a-c and d-c systems, use may be made of independent power sources with gasoline engines, installing a-c generators and rectifiers for use with the latter. The efficiency of such a power system may be considerably higher than in the power systems presently in use at radio stations.

"For 10-15-watt radio stations provision is being made for use of a foot-driven generator developed by one of the laboratories of the Academy of Sciences USSR as a standby power source.

"One of the most important technical conditions for the development of new radio stations for intra-rayon communications is the requirement of normal operation of these stations by one person (except in the case of operation from a foot-driven generator). For this purpose it is necessary to provide for remote (from the radio operator's desk) connection and disconnection of the power source and starting and stopping the engine.

"In order to provide duplex operation of intra-rayon radio stations it is necessary to arrange for spatial displacement of transmitter and receiver with their antennas and the possibility of remote (from the radio operator's desk) control of one of these elements of the receiving-transmitting equipment.

"New equipment for intra-rayon radio communications must be developed by the Ministry of Radio Engineering Industry USSR in the shortest possible time in order that its series production may begin in 1957. The introduction of new equipment will permit considerable improvement in the stability of subordinate local communications and increase the productivity of labor."

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